Addressing Student Behaviors/Perspectives

**Prior Student Understanding and Attitudes (Group 1)**

* Use the intros on the first day to begin conversation about growth mindset and build off of students’ positive learning experience.
* Embed the development of student attributes, address misconceptions, throughout the class.
* Survey students at the beginning and at the end about their perceptions of what math is. How it is learned, and themselves as learners.

**Promoting student perceptions that foster productive engagements (Group 2)**

* Group work can foster the classroom expectation that everyone is capable of mathematical reasoning. There is evidence that randomly and publicly selected groups are more effective at furthering this goal. This does not need to happen daily, nor does it have to be the only strategy.
* Regularly including contextualized attributes work in meaningful ways in lessons, as opposed to as an isolated topic or class divorced from the course content. This requires access to training, support, and collaborative inquiry.
* Public consideration and/or analysis of multiple solution methods, both correct and incorrect.

**Addressing Learning Skills (Group 3)**

* Students need to understand and own a personal rationale for why and how learning skills matter to learning mathematics.
* Build self-reliance through embedding learning skills activities that are timely, appropriate and practical; provide ongoing opportunities (within and across classes) to practice these skills.
  + *give opportunities to reflect and share own learning successes and struggles*
  + *in-class modeling of skills*
* This learning skills approach should be reinforced by campus resources that support students.

**Promoting Sense-Making and Personally Relevant Connections (Group 4)**

1. Strategies that help students feel safe to explore
2. First day activities are very important
3. Students sharing work with each other
4. Establishing cultural norms in the classroom
5. Stress importance of respect (of the individual, of the learning process)
6. “Field of Dreams” Strategies (Physical environments outside the classroom)
7. Provide Multiple ways for students to demonstrate mastery/understanding

**Using evidence, verification, multiple representation, and communication as part of mathematics (Group 5)**

Departments make a shared commitment to the effective use of these mathematical practices:

1. Faculty collaborate and experiment to improve the implementation, promote consistency across classes and tutoring, and the assessment of these skills.
2. A thorough induction of students into these practices using familiar math, including a) an explanation that the practices are both part of math and a method of learning b) an opportunity to become familiar with expectations by using protocols to evaluate and assess anonymous student work.